

B.E. PRINTING ENGINEERING SECOND YEAR SECOND SEMESTER – 2024

GRAPHIC REPRODUCTION

Time : Three hours

Full Marks : 100

Answer from all the groups.

GROUP – A

- 1.a) Describe the basic principle of contact printer. 6
- b) What are the merits of vertical process camera over horizontal process camera? 4

GROUP – B

Answer any *two* questions.

- 2.a) Discuss various defects in process lenses and show their remedies. 11
- b) What is lens flare? How is it eliminated? 2+2
- 3.a) Compare among functions of different layers of a black and white process film. 7
- b) Why chemical ripening is at all required in the manufacturing of dry gelatin halide emulsion? 2
- c) Why doctoring is necessary in the manufacturing of dry gelatin halide emulsion? Explain it briefly. 1+5
- 4.a) What are the basic ingredients of a continuous tone developing solution? How these ingredients contribute to the effective working of the solution? 4+8
- b) Why fixing is necessary in film processing? Explain briefly. 3

[Turn over

GROUP – C

- 5.a) What is optical density? Describe the basic principle of a densitometer with supporting diagram. 2+5
- b) Describe the role of polarisation filters in a densitometer. 5
- c) How can you reduce the density of a positive image? 5
- d) What do you mean by gamma? Explain briefly. 3

GROUP – D

Answer any *two* questions.

- 6.a) Why halftones are necessary in planographic process? 5
- b) Describe the diffraction theory of halftone photography. 6
- c) Why Moire pattern is caused and how it can be eliminated? 3+3
- d) What sort of special exposure is required in halftone preparation and why? 1+2
- 7.a) “Contact screen is simpler and more versatile compared to glass crossline screen.” Explain the statement. 8
- b) Why black printer negatives are required in colour reproduction in offset printing process and how is it prepared? 2+4
- c) How filter factors are calculated? 6
- 8.a) Why colour correction is needed in colour reproduction methods? Describe any one colour correction technique. 5+5
- b) “Indirect method of colour separation films is qualitatively better than direct method of colour separation films.” – Justify it with description of these methods along with flowchart. 10